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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,846	03/30/2004	Yuusuke Sato	251143US3RD	2329

22850 7590 06/12/2007
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
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1745

NOTIFICATION DATE	DELIVERY MODE
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06/12/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/811,846	SATO ET AL.	
	Examiner	Art Unit	
	Tracy Dove	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 6-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/9/04;6/22/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 8/9/04 and 6/22/06 have been considered by the examiner.

Election/Restrictions

Applicant's election of Group I, claims 1-5 and 10-15, in the reply filed on 4/3/07 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 and 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the fuel" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites “a pump delivering the mixture and air to the fuel cell”, which is indefinite. It is unclear if the pump delivers the mixture combined with air to the fuel cell or if the mixture is delivered to the fuel cell separately from the air.

Claim 1 recites “at least one of the fuel tank and the mixing tank”, which is improper group language. Examiner suggests “at least one of the fuel tank or the mixing tank”.

Claim 1 recites “the partition comprising first, second and third flow paths, the first flow path connecting the mixing tank to the fuel cell, the second flow path connecting the fuel cell to the pump and the third flow path connecting the pump to the mixing tank”, which is unclear. The first flow path indicates the mixing tank and the fuel cell are in different compartments. The second flow path indicates the fuel cell and pump are in different compartments. The third flow path indicates the pump and the mixing tank are in different compartments. However, it is unclear how the pump and mixing tank are connected through the partition since the claim indicates they are contained in the same compartment (opposite the fuel cell).

Claim 2 recites “the partition is configured to restrict heat transfer from the first compartment to the second compartment”, which is indefinite. The claim does not recite how the partition is configured to restrict heat transfer.

To the extent the claims are understood in view of the 35 U.S.C. 112 rejections above, note the following prior art rejections.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

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patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozeki, US 2004/0062962.

Ozeki teaches a fuel cell unit having a casing 20, a direct methanol fuel cell 24, mixing tank 22c, fuel tank 22a, a fuel pump 22b, a fluid-feed pump 22d, an air feed pump 23 and a partition 22 partitioning the interior of the casing into a first compartment and a second compartment (Figure 3). The partition comprises a first return fluid path the connects the fuel cell to the mixing tank and a second fuel fluid path the connects the fluid-feed pump to the fuel cell. A third fuel fluid path connects the mixing tank and the fluid-feed pump. The fuel cell supplies electric power (0009). The fuel tank contains methanol as a fuel for the fuel cell. Methanol from the fuel tank is fed into the mixing tank (0030). Also, water is generated as a result of the chemical reaction in the fuel cell and is returned to the mixing tank through the return fluid path (0032). The pumps deliver the fuel and the air to the fuel cell (Figure 3). The casing 20 contains the fuel cell, the pumps, the fuel tank and the mixing tank. The fuel cell 24 is contained within casing 20, but outside casing 22. The fuel cell unit further comprises a fan.

Thus the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oga et al., JP 05-290868 in view of Ozeki, US 2004/0062962 and further in view of Machida, JP 11-086891 and Schmidt, US 6,783,882.

Oga teaches a fuel cell power generation device 20 wherein the inside of the device is parted by a heat insulation partition wall 22. A fuel cell 3 is contained in a first compartment 20A of the device and a fuel tank 9 is contained in a second compartment 20B. The fuel tank may contain methanol (0005). The partition 22 comprises an air intake port 41.

Oga does not explicitly state the arrangement of the connection paths of the claimed parts of the fuel cell and the outside air inlet port. However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because the arrangement is merely one of many general arrangements ordinarily created by the skilled artisan. The claimed arrangement is shown in the Ozeki reference (see teaching of Ozeki above). Oga teaches providing a fuel cell unit enclosed with a partition to restrict heat transfer is known. Both Oga and Ozeki teach direct methanol fuel cell units.

Regarding claim 10-12, to provide a filter and a valve for an air port in a fuel cell unit is known in the art and generally within the skill of the skilled artisan. See Machida description of "air valve 5" and Schmidt description of "filter assembly 112".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 6, 2007



TRACY DOVE
PRIMARY EXAMINER